

REMARKS

This application has been carefully reviewed in light of the final Office Action dated January 25, 2005. Claims 1 to 9 and 14 to 20 are pending in the application. Claims 1 and 18, which are the independent claims, have been amended. Reconsideration and further examination are respectfully requested.

In the Office Action, Claims 1, 3 and 14 to 20 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,893,095 (Jain) in view of U.S. Patent No. 6,345,274 (Zhu); Claims 1, 3 and 14 to 20 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,373,979 (Wang) in view of Zhu; Claim 2 was rejected under 35 U.S.C. § 103(a) over Wang and Zhu in view of U.S. Patent No. 6,230,154 (Raz); and Claims 4 to 9 were rejected under 35 U.S.C. § 103(a) over Wang, Zhu and Raz in view of Jain. Reconsideration and withdrawal of are respectfully requested.

The present invention generally concerns seeking images, from an example image containing at least one region of interest, from amongst a plurality of images stored in a database. Each of the stored images is associated with a data item of a first type, referred to as an index of the stored image, representing at least one characteristic of the visual content of the image. For each region of interest, a data item is received of a second type indicative of a user selection for a type of taking into account of the content of the region of interest for the seeking of images. A data item is calculated of a third type, referred to as the index of the example image, representing at least one characteristic of the visual content of the example image and depending on the data item of the second type. An image research strategy is selected according to the at least one data item of the second type. A similarity is calculated, according to the selected image research strategy, between

the example image and each of the images amongst at least one subset of the stored images, the similarity being calculated from the data item of the first type associated with the stored image and the data item of the third type associated with the example image. At least one image is supplied, referred to as the result image, in the database, the at least one result image being selected from amongst the stored images in the database according to its degree of similarity with the example image.

Referring specifically to the claims, independent Claims 1 and 18 are respectively directed to a method and a device.

Thus, among its many features, the present invention provides for (i) receiving, for each region of interest in an example image, a data item of a type indicative of a user selection for a type of taking into account of the content of the region of interest for the seeking of images, and (ii) selecting an image research strategy according to the at least one received data item. The applied references of Jain, Zhu, Wang and Raz are not seen to disclose or suggest at least these features.

As understood by Applicant, Jain discloses a system and method for content-based searching and retrieval of visual objects, in which a base visual information retrieval (VIR) engine utilizes a set of universal primitives to operate on the visual objects. See Jain, Abstract. Jain discloses that the primitives are computable image properties or attributes that can be localized in the spatial domain (arrangement of color), the frequency domain (sharp edge fragments), or by statistical methods (random texture). In addition, for each generic image property such as color, texture, and shape, a number of primitives may be computed. See Jain, column 8, lines 6 to 15.

Although Jain may be seen to disclose content-based searching and retrieval

of visual objects using primitives, it is not seen to disclose or suggest that a data item is received which is indicative of a type of taking into account of the content of a region of interest in an example image. Rather, Jain merely defines primitives as computer features corresponding to arrangement of color, sharp edge fragments and random texture, without disclosing how such features should be taken into account. Moreover, Jain is not seen to disclose or suggest that the type of taking into account is associated with a user selection. Jain is not therefore not seen to disclose or suggest receiving, for each region of interest in an example image, a data item of a type indicative of a user selection for a type of taking into account of the content of the region of interest for the seeking of images. In addition, Jain is not seen to disclose or suggest that an image research strategy is selected according to the at least one received data item.

Zhu was cited for its alleged disclosure of selecting an image research strategy according to at least one received data item. As understood by Applicant, Zhu discloses a method for determining a user preference for a desired image, where user supplied rankings of example images are used to identify a stored ranked candidate set. This information is used to identify the preferred representation and associated similarity measure from a fixed set of representations and similarity measures. See Zhu, column 8, lines 12 to 17.

The Office Action equated Zhu's similarity measure with the claimed image research strategy. However, in Zhu, the similarity measure results from information relating to user supplied rankings of example images. This is different than the present invention, in which an image research strategy is selected based on a data item which indicates how the content of a region of interest in an example image should be taken into

account, where the type of taking into account is associated with a user selection.

As such, even if Jain and Zhu are combined in the manner proposed in the Office Action (assuming for argument's sake that such combination would be permissible), the result would not teach at least the features of (i) receiving, for each region of interest in an example image, a data item of a type indicative of a user selection for a type of taking into account of the content of the region of interest for the seeking of images, and (ii) selecting an image research strategy according to the at least one received data item.

In addition, Raz has been reviewed and is not seen to compensate for the deficiencies of Jain and Zhu.

As understood by Applicant, Wang discloses a system and method for determining a level of similarity among more than one image, in which color characteristics or descriptors (e.g., histograms) are computed with respect to identified segments of image data. See Wang, column 4, lines 44 to 46.

Although Wang may be seen to disclose the use of color characteristics or descriptors in determining a level of similarity between images, it is not seen to disclose or suggest that a data item is received which is indicative of how the content of a region of interest in an example image should be taken into account. Moreover, Wang is not seen to disclose or suggest that the type of taking into account is associated with a user selection. In addition, Wang is not seen to disclose or suggest that an image research strategy is selected according to the at least one received data item.

Zhu was cited for its alleged disclosure of selecting an image research strategy according to at least one received data item. However, as noted above, Zhu is not seen to disclose or suggest a data item which is indicative of a type of taking into account

of the content of a region of interest of an example image, muchless that such type of taking into account is associated with a user selection.

As such, even if Wang and Zhu are combined in the manner proposed in the Office Action (assuming for argument's sake that such combination would be permissible), the result would not teach at least the features of (i) receiving, for each region of interest in an example image, a data item of a type indicative of a user selection for a type of taking into account of the content of the region of interest for the seeking of images, and (ii) selecting an image research strategy according to the at least one received data item.

In addition, Raz has been reviewed and is not seen to compensate for the deficiencies of Wang and Zhu.

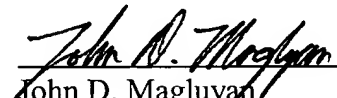
Accordingly, based on the foregoing amendments and remarks, independent Claims 1 and 18 as amended are believed to be allowable over the applied references.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa,
California office by telephone at (714) 540-8700. All correspondence should be directed to
our address given below.

Respectfully submitted,



John D. Magluyan
Attorney for Applicants
Registration No.: 56,867

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200

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